know more about it, may prove to form a sixth group, the balance of "individuality," if I understand the meaning of the word, will still be on the side of New Zealand. Turning to the Carinate birds, *Harpagornis* stands alone, while *Cnemiornis* will certainly count for as much as the *Didida*. The extraordinary Mascarene Rails (*Miserythrus* and *Aphanapteryx*) are well represented by *Ocydromus*, which so much resembles them, and *Strigops* is undoubtedly a more abnormal form than, so far as we can judge, either *Lophopsittacus* or *Necropsittacus*; just as *Nestor* is more aberrant than *Coracopsis*, and *Heterolocha* than either *Fregilupus* or *Necropsar*. But there is no need to continue the list, and in conclusion I will only declare that I think far too highly of the fauna of Madagascar and of the Mascarene Islands to wish that its extraordinary peculiarities should be undervalued, though I do not want them to be unduly magnified at the expense of those of the fauna of New Zealand.

ALFRED NEWTON

Magdalene College, Cambridge, October 27

Eucalyptus

HAVING read with great interest the article in your journal (Vol. xvi. p. 443) on the *Eucalyptus* I take the liberty of sending you a pamphlet on the same subject, in which I have endeavoured to unite all the arguments likely to persuade and convince the Italians of the immense utility of the above-named tree, the cultivation of which would be of the greatest importance for the *Agro Romano*.

As is well remarked in the article in NATURE, the *Eucalyptus* is extensively cultivated in France, Spain, and Portugal. But in Italy, where it prospers almost all over the country and might be cultivated with facility, in spite of the most earnest efforts on my part during my residence here for the last ten years, in spite of its being recommended in Parliament by one of the most influential members, it has not been adopted.

In my gardens on the Lake Maggiore, I cultivate forty different varieties of the *Eucalyptus*. Of these the *amygdalina* and the *globulus* have attained, in eight years, the height of 17 metres. It is to be remembered that the temperature has sometimes been as low as 7° C. below zero without injury to these plants.

If you consider it probable that these few words could be of interest to your readers I willing authorise you to publish them in your estimable journal. PRINCE PIERRE TROUBITZKOY

Villa Troubitzkoy, near Intra, Lago Maggiore, October 15

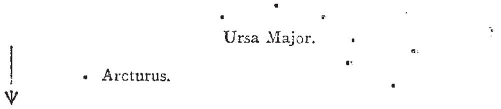
THESE trees are now attracting so much attention that even the small amount of experience I may be able to offer may not be unacceptable to your readers. Considerable stress is laid upon their influence in dissipating malaria; but I have not found this to be the case in Queensland, one of the head-quarters of the tree. I have personally suffered from malaria in the very heart of a forest extending for many miles in every direction, and composed mainly of all the varieties of *Eucalyptus*, and not by any means remarkable for the extent of swampy ground, and have known many instances of febrile attacks among shepherds and stockmen in the locality. Moreover I was told on inquiry that these attacks were not confined to any particular year, but that every year some cases might be expected. I was greatly surprised at reading in your "Notes" (NATURE, vol. xvi. p. 557) that the mosquitoes had disappeared with the introduction of the "gum" trees into Algeria. This would not be the experience of any one who has lived in Australia, I believe. I have found these pests so intolerable on high land, where almost the only tree to be found was one variety or other of *Eucalyptus*, and sometimes all, that sleep was impossible while camping out at night, and life a burden in the day by reason of these pests. The gums emit a most decided odour, especially in strong sunlight. When riding across the great Queensland plains and approaching wooded spurs I have (*Scotticé*) "felt" the characteristic smell of the gums at a considerable distance. These plains—ten miles in breadth—are not crossed in a short time, and the resinous odour of the gums, omnipresent in the forest and scarcely noticed there, strikes one forcibly when approaching the trees after the olfactory organs have been for some time deprived of it. Whether this odour has any effect or whether it is *the* preservative against malaria, I do not know. The growth of these trees in South America is very rapid. When in the Banda Oriental some years ago I examined a plantation of red and blue gums, then eight years old. The trees were at least forty feet high, and many of them measured thirty-six inches in circumference at three feet from the ground. They had a profusion of foliage such as I have never seen on the same trees in Australia. This was right out on "pampa" land, in deep alluvial soil. These trees had fought their way up, in spite of the black ants so destructive to foliage—the owner told me that they had at first stripped the young trees—and the tremendous gales which sweep over this open country. Those to the westward and south-westward of the plantation were far inferior in size to those on the east and north. This was the only grove of *Eucalypti* in the Banda, and it demonstrates the possibility of covering the naked pampas to any extent with forest. English settlers in the River Plate countries should note this fact, and I am sure the enlightened owner of the Estancia "Sherenden" would supply any of his countrymen with seed.

ARTHUR NICOLS

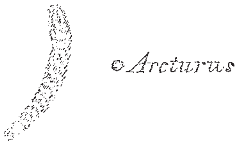
Meteor of October 19, 6.15 P.M.

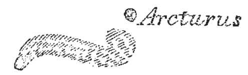
THE large meteor described by two correspondents (NATURE, vol. xvi. p. 551) was observed also by several persons in this district, but most of the accounts are so meagre and doubtful as to possess little scientific value. The meteor appears, however, to have been well seen by Mr. W. Watkins Old, of The Parade, Monmouth, and his notes are so interesting that I beg to transcribe them. He says:—

"The meteor fell at 6.15 exactly. It appeared to me to descend perpendicularly some degrees from and to the west of Arcturus (which was shining brightly), and it disappeared behind a bank of dark cloud above the horizon at a point in a line projected beyond Arcturus, half the distance between that star and the last of those in the tail of Ursa Major, as roughly shown in the diagram below:—



Thus it remained stationary, like a dazzling white wand, while I counted twenty, during which time I could perceive the vapour, of which the trail was composed, as it were in ebullition. It then gradually curved towards the north as depicted in the following sketch; and drifted slowly away during *eight* minutes,





until it lay almost horizontal though still brightly illuminated, while the clouds gradually rose and covered it from my view. Altogether I observed it over eight minutes by my watch. There was much twilight in the west and the moon was shining brightly from which one may judge the extreme brilliancy of the meteor. I should add that when it appeared there was simultaneously a sensible rent or flip, like one sometimes hears with a sharp flash of lightning, and which may possibly be due to the appulse of light, as it could scarcely be the sound of explosion if there was any. It was too simultaneous to be the report of the descent of the meteor through the air, but it was sufficiently loud to be pronounced and caused some people standing near me, with their backs to the west, to inquire what it was, though they evidently saw nothing of the meteor nor even turned towards its direction. I listened but heard no further sound."

Ashleydown, Bristol, October 26 W. F. DENNING

Curious Phenomenon during the Late Gale

YOUR correspondent, "G. A. M." (vol. xvi. p. 551), may be interested to know that the "ball of fire" he saw descend on the evening of the 14th inst. was seen here by me, and by those who accompanied me, at precisely the same time (6.50 P.M.) that he mentions. We were walking in a south-easterly direction, and it seemed to fall from about half-way between that point of the compass and the moon, which was due south of us, and shining brightly. The ball itself appeared to us luminous white, while the "wake" left in its passage through the air, was bluish green. It was visible, I should say, for twenty seconds.

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Occurring, as it did, at a time when thousands were wending their way to church, it must have been very generally observed.

Harrow, October 26 A. W. B. J.

Singing Mice

WHEN at school a friend and I used to keep tame mice, and amongst our large stock was one of the so-called singing mice. The mouse in question was not one we bred ourselves, but was bought from a London dealer, so we had no opportunities of knowing whether it had ever been kept near a singing bird or not; but it was not at all averse to performing in broad daylight, and would chirp whilst a knot of boys were standing round it as freely as when the cupboard was closed.

As M. Brierre describes it (vol. xvi. p. 558), the mouse used to sit with its snout more or less elevated, but not at all to an uncomfortable height, and its throat used to throb like that of a bird whilst singing, the fur of the one being ruffled like the feathers of the other; and the song was something between that of a wren and that of a shrew mouse, and rather pleasing than otherwise.

At first we were inclined to attribute the noise to disease of the lungs or throat, but were unable to hold that opinion long, as there never seemed to be any pain or gasping connected with it, but the noise was always produced at periods of greatest rest, and chiefly when the mouse came out of its sleeping place to wash its face and paws, at which times it generally chirped at intervals. It never had the power of imparting the art to others, nor did any of its numerous progeny inherit its powers. Neither was it all short lived, but rather the contrary, and its death was caused by an accident. We were unable to consider the power of emitting the sounds at all the result of weakness or disease.

HENRY H. SLATER

Sound-Producing Arthropods

I HAVE read with much interest the brief abstract given in NATURE (vol. xvi. p. 567) of Mr. Wood Mason's announcement to the Entomological Society of the discovery of stridulating organs in association with scorpions; reference being made at the same time to his recognition of similar sound-producing structures among other Arthropoda, including certain Crustacea. In this latter case no mention is made of the particular types with which these sound-organs have been observed, and I therefore hazard the relation of an instance that has recently fallen under my own observation with the chance of its proving a newly-recorded example.

The crustacean in question, which I have ascertained to possess sound-producing properties to an eminent degree, is a species of *Spheroma*, belonging to the Isopodous order of the class. I have not as yet ascertained the exact method in which sound is produced nor whether the animal has organs specially adapted for the purpose; on numerous occasions, however, my attention has been attracted to the glass jar of which, with the exception of microscopic Copepods and Protozoa, a single specimen of the species is the sole animal occupant, by a little sharp tapping sound produced three or four times consecutively with intervals of about one second's duration, and which I can almost exactly imitate by gently striking the side of the jar with the pointed end of a pipette. On being approached the little creature always endeavours to elude notice by passing to the opposite side of the stalk of seaweed, upon which it usually reposes in the same way that a squirrel dodges round the branch of a tree, and on no occasion so far have I been able to catch the little fellow *flagrante delicto*, or in the act of producing the sound which it most undoubtedly emits. The character and intensity of the sound produced associated with the small size of the animal, scarcely one quarter of an inch in length, induces me to believe that it is caused by the sudden flexion and extension of the creature's body. A more prolonged observation will no doubt clear up this point, but Mr. Wood Mason may possibly be in a position to throw further light upon the subject by means of the evidence he has collected in reference to other crustacean types.

Among the higher Decapodous crustacean order one species, *Alpheus ruber*, frequently collected by me in Guernsey, produces a snapping noise beneath the water by the sudden extension of the terminal joint of its larger claw that can be heard at a considerable distance, and that at once betrays its lurking place to a practised ear. The large sea crayfish (*Palinurus quadricornis*) again, often emits when handled what may be fitly described as a shrill squeaking sound by the rubbing together of the spinous abdominal segments. It would seem indeed that a closer study of the life habits of the aquatic Arthropoda is likely to reveal among its members as infinite a variety of sound-producers as has hitherto been determined to exist among their more familiar terrestrial congeners.

W. SAVILLE KENT

St. Heliers, Jersey, October 27

Insects and Flowers

IN reference to the question whether insects are most attracted to flowers by scent or colour, may I mention that while staying at the hotel at Cettinge lately I was amused by the behaviour of some humming-bird sphinx moths. My room was roughly stencilled with a "spotty" pattern of purplish brown on the dull white plaster. Every morning these moths, with their probosces extended, used to attack the dabs of colour, hovering before them, just as though they were real flowers, but starting back with apparent amazement on finding that they were not. This seems the more remarkable because the wonderfully abundant aromatic herbs of that region, which must have supplied their usual food, have all, so far as I know, very inconspicuous flowers.

Notting Hill, October 27 A. J. H.

FRANCIS VON ROSTHORN[1]

FRANCIS VON ROSTHORN, who died June 17, 1877, was the son of Matthew Rosthorn, of Lancashire, who went to Vienna in 1765, at the invitation of the Empress Maria Theresa, to establish the manufacture of metal buttons. He constructed the first rolling-mills in Austria; one at Vienna, another (in 1792) at Fahrafeld, in Lower Austria. Matthew von Rosthorn was ennobled by the Emperor Joseph II. in 1790, and died at Vienna January 3, 1805, leaving five sons. The youngest of these, born April 18, 1796, at Vienna, is the subject of this notice. These five brothers joined in creating extensive metallurgic establishments; the first (1817) at Oed; and another (1823) in Carinthia, for smelting zinc (then high in price) out of the Raibl and Bleyberg ores, by means of brown coal. Having purchased (1826) the state demesne of Wolfsberg, in Carinthia, with extensive metallurgical works, they constructed there a large rolling-mill, together with a puddling furnace. Francis von Rosthorn, having prepared himself for his practical career by attending the Mining Academy of Schemnitz, in Hungary (1814 to 1818), soon became acquainted with several eminent geologists, and obtained the patronage of the late Archduke John. He made several scientific tours in Carinthia, Carniolia, Styria, Salzburg, and the Hungarian border; in 1827 with Prof. Keferstein, in 1828 with Archduke John, in 1829 with Escher and Schröter, and in 1832 with Dr. Boué. His annual visits to Archduke John at Gastein (1829 to 1836) were always connected with Alpine exploration. His later travels (1842 to 1847) were chiefly southward. In 1832 he communicated the results thus obtained to the Meeting of German Naturalists at Vienna; and in 1836 to the meeting at Freiburg. In 1848 he was elected into the Legislative Assembly ("Landtag") of Carinthia; and from 1852 to 1870 held the office of President of the Commercial and Industrial Board of that province. Francis von Rosthorn's constitution was exceptionally robust, so that up to his seventy-sixth year he was able to undertake arduous Alpine ascents. His conversation with persons of any social station was unaffectedly amiable; but he could be sarcastic when he met with affectation or baseless pretensions.

SPECTRUM OF AURORA AUSTRALIS

AS I believe no account of spectroscopic observations of the Aurora Australis have as yet been published, I venture to send this description of two auroræ observed during the stay of H.M.S. *Challenger* in high southern

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[1] Obituary Notice by Prof. E. Suess ("Report of the Imperial Geological Institute, Vienna," August 31, 1877).

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